

STATE OF RHODE ISLAND
PUBLIC UTILITIES COMMISSION

IN RE: THE RHODE ISLAND DISTRIBUTED :
GENERATION BOARD'S RECOMMENDATIONS :
FOR THE 2022 RENEWABLE ENERGY : DOCKET NO. 5202
GROWTH PROGRAM YEAR 2022 :

2022 Renewable Energy Growth Program Year
Pre-Filed Rebuttal Testimony of Jim Kennerly

**DISTRIBUTED-GENERATION BOARD
& OFFICE OF ENERGY RESOURCES**

FEBRUARY 4, 2022

Table of Contents

| | |
|--|----------|
| PRE-FILED REBUTTAL TESTIMONY OF JIM KENNERLY | 2 |
| JK Rebuttal Schedule 1 – Ecogy Energy Comments | 32 |
| JK Rebuttal Schedule 2 - Medium Solar I and II Breakdown of DPUC Support v Oppose & Size of Change..... | 33 |
| JK Rebuttal Schedule 3 – Narragansett Electric Table Containing REG Program Weighted Average Accepted Bid Prices for Projects >25 kW (2015-2021) | 34 |
| JK Rebuttal Schedule 4 – National Grid Presentation - Third 2021 Renewable Energy Growth Program Open Enrollment Results Summary | 35 |

1 **Pre-Filed Rebuttal Testimony of Jim Kennerly – Sustainable Energy Advantage**

2
3 I, Jim Kennerly, hereby testify under oath as follows:

4 **Please state your name, employer, and title.**

5 My name is Jim Kennerly. I am employed by Sustainable Energy Advantage, LLC (“SEA”) as
6 Director and Policy Analytics Practice Lead.

7
8 **Have you submitted other testimony in Docket 5202?**

9 Yes, I submitted Direct Testimony to accompany the 2022 recommended ceiling prices.

10
11 **What is the purpose of your Rebuttal Testimony?**

12 The purpose of my Rebuttal Testimony is to answer the Direct Testimony of the Division of
13 Public Utilities and Carriers’ Witness Michael Brennan (hereafter DPUC and “Mr. Brennan”,
14 respectively).

15
16 **General Overview of Stakeholder Engagement Efforts Related to 2022 Ceiling Price**

17 **Development Process**

18 **Over what period did SEA conduct the ceiling price development?**

19 SEA conducted the ceiling price development process from May to October of 2021. Key
20 milestones in the development process were as follows:

- 21 • The PUC approved the consulting team’s budget for 2022 Program Year (PY) support in
22 late April 2021 in Docket 4604.

- 1 • The consulting team emailed stakeholders on June 2, 2021 with the Data Request and
2 Survey and requested responses by June 28, 2021.
- 3 • The consulting team circulated its first draft of proposed 2022 ceiling prices, including a
4 discussion of solar performance assumptions and class subdivisions, on July 13, 2021,
5 ahead of a stakeholder technical meeting (including with the DPUC) on July 27.
6 Following that meeting, the consulting team requested that comments be submitted no
7 later than August 20, 2021.
- 8 • The consulting team requested comments on a public version of the Cost of Renewable
9 Energy Spreadsheet Tool (CREST) utilized to calculate the ceiling prices on August 9,
10 2021.
- 11 • The consulting team circulated a second draft of proposed 2022 ceiling prices on
12 September 2, 2021, ahead of a stakeholder technical meeting (including with the DPUC)
13 on September 8, 2021. The consulting team requested that comments be submitted no
14 later than September 30, 2021.
- 15 • The consulting team requested supplemental comment on potential impacts of adoption
16 of electrical code changes by October 11, 2021.
- 17 • The DG Board approved the final recommended prices on October 25, 2021.

18

19 **How much time does SEA provide for stakeholder input, data, and other feedback**
20 **(including feedback from the DPUC) to provide written comments/ideas and/or data when**
21 **draft ceiling price iterations are released for the purpose of soliciting stakeholder**
22 **feedback?**

23 Our team aims to provide stakeholders with a minimum of 3-4 weeks following stakeholder

1 technical sessions to formulate written comments. We also aim (though do not always succeed)
2 to provide stakeholders with proposed draft ceiling prices at least 1-2 weeks ahead of a technical
3 session.

4
5 **Was this timing broadly consistent with prior years in which SEA has managed the ceiling**
6 **price process?**

7 Yes.

8

9 **Specific SEA Engagement Efforts with DPUC Related to 2022 Ceiling Price Development**

10 **Process**

11 **Did SEA engage with the DPUC during the ceiling price development, including direct**
12 **conversations with Mr. Brennan?**

13 Yes. SEA engaged with the DPUC throughout the process via email communication and one-on-
14 one meetings with Mr. Brennan. From July to October 2021, SEA met with Mr. Brennan four
15 times in one-on-one meetings. In addition, on September 21, 2021, SEA met with representatives
16 from OER, National Grid, and the DPUC regarding affected system operator (ASO) studies and
17 interactions with ITC eligibility.

18

19 **Did the DPUC provide written comments and/or data on the first draft of the ceiling**
20 **prices?**

21 Yes, the DPUC submitted comments on August 20, 2021, the due date for comments on the first
22 draft of the proposed 2022 ceiling prices.

23

1 **If so, please provide copies of those documents.**

2 The DPUC's written comments on the first draft of the ceiling prices can be found in **JK**

3 **Schedule 17** to my Direct Testimony.

4

5 **Did SEA consider DPUC written comments and/or data on the first draft of the ceiling**
6 **prices when developing the second draft of the ceiling prices?**

7 Yes. SEA reviewed and considered all the DPUC's written comments in development of its
8 second draft ceiling prices, and made the following specific determinations in response to DPUC
9 comments:

- 10 • *Production Degradation Rates:* DPUC was supportive of SEA's proposed approach to
11 take the average of the prior 0.5% degradation input and the observed degradation based
12 on SEA's analysis, for the Small and Medium/Commercial scale classes. As such, SEA
13 adopted these values.
- 14 • *Small Solar Capacity Factors:* DPUC was supportive of SEA's proposed approach to
15 take the average of the prior small solar capacity inputs and the observed capacity based
16 on National Grid's analysis, for the small solar classes. As such, SEA adopted these
17 values.
- 18 • *Renewable Energy Class Subdivisions:* The DPUC recommended that SEA adopt
19 subdivision Option C arguing that Option C "balances multiple objectives without
20 creating overly complex number of Classes." As such, SEA adopted subdivision Option
21 C, based in part on the DPUC's recommendation.
- 22 • *Post Tariff Revenue:* DPUC recommended that 80% of post-tariff net metering revenue
23 be utilized in analysis, as opposed to SEA's proposal of 60%. Based on the comments

1 received, and SEA’s understanding of financier’s treatment of post-tariff revenue, SEA
2 did not revise its original approach.

- 3 • *Useful Life*: DPUC proposed assuming 30-year useful lives for Commercial and Large
4 Solar categories with 25-year useful lives for Small and Medium projects, given that (as
5 is our understanding based on discussions with industry stakeholders) most roofs tend to
6 have useful lives of less than 30 years. SEA adopted DPUC’s recommendation for Large
7 Solar but declined to adopt the 30-year useful life for Commercial Solar, finding that a
8 majority of such projects are located on rooftops which are often replaced more
9 frequently than 30-years.

10
11 **Did the DPUC provide written comments and/or data on the second draft of the ceiling
12 prices?**

13 Yes, the DPUC submitted comments on September 30, 2021, the due date for comments on the
14 second draft of the proposed 2022 ceiling prices.

15
16 **If so, please provide copies of those documents.**

17 The DPUC’s written comments on the second draft of the ceiling prices can be found as **JK**
18 **Schedule 20** to my Direct Testimony.

19
20 **Did SEA consider DPUC written comments and/or data on the second draft ceiling prices
21 when developing the final recommended ceiling prices?**

22 Yes. SEA reviewed and considered all of the DPUC’s written comments in development of its
23 second draft ceiling prices, and made the following specific determinations in response to DPUC

1 comments:

- 2 • *Project Costs:* In response to the range of inputs SEA proposed to account for the
3 inflationary pressure on project costs experienced by projects in late 2021, the DPUC
4 recommended using the low-end capital cost estimates from the second draft analysis, so
5 as to limit cost to ratepayers in an environment of rising development/project costs. In
6 response, SEA utilized the low-end capital cost estimates. In addition, due to dramatic
7 month-over-month changes in the forecasted inflationary pressure (utilizing EIA’s Short
8 Term Energy Outlook (STEO)), SEA shifted to utilizing a three-month average of the
9 STEO, as opposed to using the most recent values available. This resulted in a decrease
10 in the low-end inflation input from 14% to 12% (as compared to 10% in the second draft
11 ceiling price analysis).¹
- 12 • *Post-Tariff Revenue:* DPUC reiterated its initial comments in support of a smaller
13 discount to post-tariff net metering revenue.
- 14 • *Small Solar Taxation:* DPUC argued that Small Solar I modeling should not assume that
15 program revenue received in the form of bill credits is taxable income. Given the issues
16 discussed in this testimony, SEA did not revise its assumptions in support of the final
17 recommended ceiling prices.

18

19 **Did your team fail to implement or otherwise address any recommendations made by the**
20 **DPUC during the 2022 ceiling price development process?**

21 No, not to our knowledge. While SEA may not have agreed with each recommendation made,

¹ Although our team adopted the DPUC’s suggestion to select the lower end value, the total premium rose relative to the 2nd Draft value because the 2022 PPI forecast published by the EIA also increased in the intervening time.

1 we made a concerted effort to address each one and provide reasoning for why their
2 recommendation was not adopted. As noted above, SEA did adopt several of the DPUC's
3 recommendations during this process after determining that the evidence (and our experience
4 with Northeast distributed renewable energy markets) also supported those proposed changes.

5

6 **Small Solar I Tax Assumptions**

7 **Do you agree with Mr. Brennan and the DPUC's argument that Narragansett Electric's**
8 **Tax Policy requires that all tariff compensation to Small Solar I generators is non-taxable?**

9 No, I do not. While I agree with Mr. Brennan and the DPUC that the Tax Policy clearly
10 considers bill credits to be non-taxable, their argument is contradicted by the plain language of
11 both the Tax Policy and RIPUC No. 2151-H (the REG Residential program tariff). Both
12 documents note that there are other forms of compensation to Small Solar project applicants,
13 participants and/or system owners other than bill credits, and that Narragansett Electric considers
14 those non-bill credit means of conveying performance-based incentive (PBI) value to be taxable
15 forms of income.

16

17 **Does Narragansett Electric's Tax Policy require all Small Solar income tax reporting forms**
18 **for residential customers that may receive compensation for any excess generation**
19 **produced from a residential solar system during the calendar year for tax reporting**
20 **purposes?**

21 Yes. The Narragansett Electric Tax Policy states that Narragansett Electric requires all Small
22 Solar project applicants, under penalty of rejection of the application, to submit a W-9 form
23 when submitting their interconnection and REG applications.

1 **Are there other Narragansett Electric documents that are useful for understanding how**
2 **this issue plays out for Small Solar I project owners and/or bill credit recipients?**

3 Yes. In practice (and as shown in Narragansett Electric’s REG Frequently Asked Questions
4 (FAQ) guide²), the total PBI payment can, in practice, often be more than the customer’s bill. In
5 this situation (and as stated in RIPUC No. 2151-H), the monetary value of the difference “will be
6 paid in the form a check (or by other agreed-upon means) to the recipient as identified on the
7 Application”. Given that these credits are conveyed outside of the customer’s bill, Narragansett
8 Electric’s Tax Policy appears to treat this excess PBI income as taxable.

9

10 **Does SEA believe that the Small Solar I tax assumptions need to be properly evaluated by**
11 **OER, the DG Board, National Grid, DPUC and stakeholders during the development of**
12 **the 2023 ceiling prices?**

13 Yes. As I stated in my Direct Testimony (and in our presentation accompanying the
14 recommended prices to the DG Board), our team currently plans to revisit this assumption during
15 the 2023 program year ceiling price development process if Narragansett Electric can provide
16 our team with a clear historical accounting of the taxes paid by the Company on behalf of
17 participating project owners by calendar year, as well as the amount of PBI payments paid by
18 calendar year, since the beginning of the program. However, it was not possible to know what
19 precise percentage of the PBI value is taxable without further data requests to Narragansett
20 Electric, which require substantial lead time that was not afforded to us in this case, given the
21 timing of the DPUC’s request late in the stakeholder consultation period.

² See examples in Question 8 of Narragansett Electric’s *Rhode Island Renewable Energy Growth Program Frequently Asked Questions*. 28 March 2020. Available at: <https://ngus.force.com/servlet/servlet.FileDownload?file=0150W00000DPMbc>

1 **Assuming, for the sake of argument, that Narragansett Electric’s information shows that**
2 **some tariff compensation is taxable while the rest is non-taxable, would you recommend**
3 **making a change in your approach during the 2023 ceiling price development process?**

4 Though I do not wish to pre-judge what might come from a future stakeholder process, our team
5 would likely recommend (for stakeholder discussion) that (assuming that there are no Small
6 Solar I customers that take all their PBI income via check) the effective tax rate input utilized in
7 the CREST model be discounted by the measured Small Solar I REG project income considered
8 to be non-taxable (and thus base the assumed tax rate on the measured percentage of income
9 incurring a tax liability).

10

11 **Do you believe that adopting such an approach as part of the 2023 prices would better**
12 **balance ratepayer cost mitigation with price fairness and proper notice to Small Solar**
13 **participants?**

14 Yes, I do. Our concern with adopting the DPUC’s request (as stated in my Direct Testimony) is
15 that if the prices were to be set using the DPUC’s proposed blanket assumption that all customers
16 would not be taxed on REG tariff compensation, the resulting ceiling price could functionally
17 under-compensate the unknown, yet potentially significant, portion of REG income that is
18 taxable.

19 It has also been practice that stakeholders affected by such changes are given a full opportunity
20 to review any new approach and provide comment. This important step in our process might be
21 skipped if the PUC were to grant the DPUC’s request for the 2022 program year.

22

23

1 **Have there been other instances where issues raised during regulatory proceedings for one**
2 **REG Program Year are subsequently addressed in the following REG Program Year**
3 **designs?**

4 Yes, our team has formally proposed carrying over certain issues that may require additional
5 research, dialogue, and stakeholder input beyond the timeframe of existing regulatory
6 proceedings and program year review. example, at the end of the 2020 process, our team
7 committed to consider (at the request of market participants) variations in capacity factor inputs
8 for Solar projects for the 2021 process, and (at the request of Narragansett Electric) enlarging the
9 size bin for Small Solar I projects from 1-10 kW to 1-15 kW. Our team carried out both requests,
10 and revisions to these inputs and/or size bins were ultimately reviewed and approved by the
11 Commission for the 2021 REG program year.

12

13 **Please summarize what adjustments were made to the 2022 ceiling prices based on 2021**
14 **REG regulatory proceedings and approval of the 2021 REG Program.**

15 The two issues our team committed to address during the 2022 ceiling price development process
16 included a review of project useful lives for Solar and Wind projects, as well as post-tariff
17 compensation for all projects. Both these issues were suggested by the DPUC for consideration
18 during the 2022 process.

19 As described in **JK Schedule 2** of my Direct Testimony, the DPUC proposed in its August 20,
20 2021 comments (included in my Direct Testimony as **JK Schedule 17**) to set Commercial and
21 Large Solar useful lives from 20 years to 30 years for Commercial and Large Solar projects (as
22 well as Wind projects) and 25 years for Small and Medium Solar projects. We note that the 20
23 year timeline previously assumed was a short-term resolution until we could consider the issue of

1 post-tariff revenue assumptions. The DPUC argued that the 25-year assumption was reasonable
2 for the Small and Medium class on account of those classes mostly including roof-mounted
3 projects (and thus required more frequent roof replacement). Though our team also included
4 Commercial Solar projects in the category with a 25-year assumed useful life on account of
5 Narragansett Electric data that showed most Commercial projects were also roof-mounted, our
6 team adopted all of the DPUC's other input suggestions on this issue as being reasonable and in
7 line with our experience with the market more broadly.

8 Furthermore, and as also described in **JK Schedule 2** to my Direct Testimony, the DPUC
9 proposed that our team apply a 10%-20% reduction in assumed post-tariff revenue to account for
10 the uncertainty associated with that revenue. Our team did not adopt the DPUC's specific
11 approach because we believe it may under-estimate the amount of pricing and regulatory risk a
12 financier would perceive when considering financing distributed renewable energy projects of all
13 kinds. However, we did assume at least some amount of post-tariff revenue, in part because we
14 agreed with the DPUC that doing so would reduce costs for ratepayers.

15

16 **Where can the PUC see the other issues in which SEA plans to consider further changes to**
17 **the ceiling prices considered for the 2023 program year that will be carried over from the**
18 **2022 ceiling price development process?**

19 In addition to the Small Solar I taxation issue, the issues our team plans to carry over from the
20 2022 price development process to the 2023 process can be found in **JK Schedule 3** to my
21 Direct Testimony.

22

23

1 **Post-Tariff Revenue Assumptions**

2 **Please describe the approach your team used to develop the 40% assumed discount value**
3 **applied to the post-tariff revenue estimate utilized during the 2022 ceiling price process.**

4 Our team’s recommendation was based on a careful, multi-factor analysis of the risks facing
5 distributed renewable energy projects that financiers must account for. In the case of post-REG
6 tariff revenue, the main risks are pricing risk and regulatory risk – both of which are substantial
7 when considering potential post-tariff revenue estimates either 15 or 20 years in advance. For
8 example, financiers speaking to Norton Rose Fulbright have suggested that credit for “merchant”
9 (non-contracted/non-tariff) revenues are often valued at least 30% to 40% less than contracted
10 revenues when using a P50 estimate³ – values that match closely with the 40% discount for post-
11 tariff included as an input to the 2022 recommended ceiling prices.⁴

12

13 **Even though Narragansett Electric does not specifically sign power purchase agreements**
14 **(PPAs) with REG project owners, would you characterize REG tariff compensation as**
15 **being tantamount to contracted revenue?**

16 For the purposes of financing, yes. The Renewable Energy Growth Act (R.I.G.L. § 39-26.6-6)
17 provides a guarantee against retroactively revising or renegotiating tariff terms, and thus is
18 tantamount to contracted revenue. Financiers active in the Northeast also treat revenue during the
19 tariff term as tantamount to being contracted.

20

21

³ A P50 estimate represents a case in which your mean assumed project production is assumed to be played out.

⁴ See p. 21 of Norton Rose Fulbright. *Project Finance Newswire*, April 2021. Available at:
https://www.projectfinance.law/media/5644/pfn_0421.pdf

1 **Do you agree with the DPUC’s assertion that post-tariff discount should be 20% instead of**
2 **40%?**

3 No, I do not.

4

5 **Has it historically been a common practice for financiers to assume only very shallow**
6 **discounts to forecasted post-tariff or “merchant” revenue, like the one proposed by the**
7 **DPUC?**

8 No. In our experience, it has been a much more common practice for project financiers
9 considering a transaction to take a far more conservative (and even fundamentally skeptical)
10 view of the uncontracted “merchant” revenue included in developer pro formas than
11 contemplated by a 40% reduction in assumed post-tariff revenue. In short, a discount of 40% is
12 intended to represent an emerging (though not complete) comfort amongst financiers with
13 renewable energy as an asset class.
14 Nevertheless, there is evidence that this approach persists among different financiers, particularly
15 regarding smaller-scale market participants in the Small and Medium Solar segments. For
16 example, during the 2022 price development process, one market participant, Ecogy Energy,
17 filed public comments arguing against our firm’s assuming credit for any uncontracted revenue,
18 claiming that their own financiers do not give them such credit for post-tariff/contract value
19 streams. Ecogy Energy’s comments are attached as **JK Rebuttal Schedule 1**.

20

21 **What evidentiary basis does the DPUC provide to support its request?**

22 In its August 20, 2021 comments filed with our team (**JK Schedule 17**, as attached to my Direct
23 Testimony), the DPUC cites “feedback from market participants” at the July 27, 2021 technical

1 session in support of its request. I was present at that discussion, and my recollection is that only
2 one Small Solar participant supported the 10%-20% discount approach proposed by the DPUC.
3 It is also unclear to me who financed this participant's projects or whether said financier agreed
4 with this market participant's assumption. As such, I did not feel that these comments constituted
5 sufficient evidence to deviate from our team's recommendation.

6 Furthermore, neither Mr. Brennan's Direct Testimony nor the DPUC's comments filed on
7 August 20, 2021 or September 30, 2021 contain a thorough analysis of the drivers of risk that
8 drive the amount by which merchant revenue is or should be discounted by financiers.

9

10 **New DPUC Objections and Recommendations in Direct Testimony**

11 **Are any of the DPUC recommendations in their pre-filed testimony suggestions that**
12 **weren't recommended during the ceiling price development process?**

13 Yes, the DPUC made several recommendations in their pre-filed testimony that were never
14 explicitly mentioned during the stakeholder engagement process prior to the DG Board's
15 approval of the recommended 2022 program year ceiling prices. These include:

- 16 • Changes to the Medium Solar I and II prices;
- 17 • Changes to the Small Scale Hydroelectric ceiling price; and
- 18 • Changes to the Anaerobic Digestion ceiling price.

19

20 ***Changes to Medium Solar I and II Prices***

21 **In his Direct Testimony, what changes does Mr. Brennan recommend to the Medium Solar**
22 **I and II prices on behalf of the DPUC?**

23 Mr. Brennan proposes that the Medium Solar II prices be set at the 2021 program year Medium

1 Solar price, with a 9% premium applied to that price to determine the price for the newly created
2 Medium Solar I renewable energy class.

3

4 **Did Mr. Brennan provide any analysis in support of his request?**

5 Yes. To justify his request, Mr. Brennan includes a bid-by-bid analysis of the Medium Solar
6 segment over the last four program years and compared the values to the recommended Medium
7 Solar I and II prices.

8

9 **Did Mr. Brennan share this analysis with you prior to your team's submission of the
10 recommended prices to the DG Board or the DG Board's approval?**

11 No. In fact, Mr. Brennan's analysis includes Medium Solar values from the Third Open
12 Enrollment, results of which Mr. Brennan concedes were released on December 21, 2021 - two
13 full months after the DG Board's vote to approve the recommended 2022 ceiling prices on
14 October 25, 2021.

15

16 **Is Mr. Brennan's recommendation in his Direct Testimony to revise the Medium Solar I
17 and II consistent with the comments either he and/or the DPUC provided during the
18 stakeholder process?**

19 No.

20

21 **Please describe the inconsistencies between the Direct Testimony and the comments your
22 team received during the stakeholder process.**

23 During the stakeholder process, the DPUC and/or Mr. Brennan either expressly supported or

1 suggested in comments approaches directly adopted by our team that cumulatively increased the
2 Medium Solar I Ceiling Price by 5.7 ¢/kWh, as well as approaches that cumulatively increased
3 the Medium Solar II ceiling price by 0.5 ¢/kWh. In addition, while neither the DPUC nor Mr.
4 Brennan offered comment during the stakeholder process on changes that reduced the Medium
5 Solar I price by 0.5 ¢/kWh, I also note that neither commented on changes that increased the
6 Medium Solar II price by 2.4 ¢/kWh. I provide a point-by-point analysis of these changes and
7 their impact on the 2022 recommended ceiling prices for Medium Solar projects in **JK Rebuttal**
8 **Schedule 2.**

9

10 *Changes to Small Scale Hydroelectric and Anaerobic Digestion (AD) Prices*

11 **In his Direct Testimony, what changes does Mr. Brennan recommend to the Small Scale**
12 **Hydroelectric and the AD prices on behalf of the DPUC?**

13 Mr. Brennan recommends setting the Small Scale Hydroelectric and AD prices at the level
14 calculated as part of the first Draft ceiling price analysis.

15

16 **Did Mr. Brennan provide any analysis in support of his request?**

17 Mr. Brennan cites a single Small Scale Hydroelectric bid from the first Open Enrollment of 2021
18 (made public in late June 2021), which was substantially lower than the ceiling price that was
19 ultimately recommended. Mr. Brennan also suggests that the recommended increase in capital
20 costs and insurance (which were based on primary sources from market research) “heavily
21 impacted” the price but provides no specific reason why assuming that those inputs have
22 increased is unfounded, given market circumstances.⁵

⁵ Mr. Brennan undertook no specific analysis of AD price drivers in his Direct Testimony, but I assume this is due in part to the fact that no bids have ever been received for AD projects in the REG program.

1 **Were Mr. Brennan and the DPUC aware of the rough magnitude of the increase your team**
2 **was likely to propose for Small Scale Hydroelectric projects?**

3 Yes. Mr. Brennan and the DPUC were, like all other regular stakeholders, on our REG email list,
4 in receipt of our first and second Draft 2022 recommended ceiling prices, which indicated, in
5 great detail, the precise inputs we proposed to change, and all of the precise reasons why we
6 were building towards a recommendation regarding the Small Scale Hydroelectric price. In
7 addition, we had at least two one-on-one discussions with Mr. Brennan regarding the ceiling
8 prices following the release of the second Draft 2022 recommended prices, where it was made
9 clear to him that he could raise any issue he wished.

10

11 **At any time prior to SEA’s submission of the recommended prices to the DG Board, or the**
12 **DG Board’s approval, did either the DPUC or Mr. Brennan share their concerns regarding**
13 **any aspects of either the recommended Small Scale Hydroelectric or the AD ceiling price?**

14 No. In fact, the DPUC’s September 30, 2021 comments and Mr. Brennan’s engagement with us
15 led us to believe that the opposite was true, particularly given that in the comments, the DPUC
16 indicated that they could support a substantial inflation-related price adjustment targeting the low
17 end of the range that we proposed for Small Scale Hydroelectric and AD projects.

18

19 **Analytical and Substantive Concerns with DPUC Analysis of and Recommendations**

20 **Relating to 2022 Recommended Ceiling Prices**

21 **Do you find the DPUC’s proposed changes related to the recommended Medium Solar,**
22 **Small Scale Hydroelectric and AD prices to be reasonable and based on sound evidence**
23 **and analysis?**

1 No, I do not.

2

3 **Please describe the nature of your concern with adopting the DPUC and Mr. Brennan's**
4 **requests to recalculate and/or re-set the 2022 recommended ceiling prices.**

5 The 2022 recommended ceiling prices were based on changes to various inputs based on market
6 surveillance and documented evidence from stakeholders provided during the 2022 price
7 development cycle. As in all prior years of the REG and DG Standard Contracts programs, these
8 proposed changes (or in some cases, range of potential changes) were documented in my direct
9 testimony and schedules, and thoroughly considered and reviewed by stakeholders during the
10 development process.

11 However, the DPUC's and Mr. Brennan's request to recalculate and/or reset these prices appears
12 to not appropriately account for information carefully collected and synthesized during the 5-
13 month stakeholder and program design process. We are concerned that the recommended
14 changes are not justified by a robust, input-by-input cost estimate, and, therefore, should be
15 rejected.

16

17 *Medium Solar I and II Prices*

18 **What is the main purpose of the ceiling price-based design of the REG program?**

19 The main purpose of the ceiling price-based design of REG is to set a price based on a typical
20 project in the market, against which bidders bid competitively for selection by Narragansett
21 Electric.

22

23

1 **Do you believe that, as designed and implemented to date, the REG program has**
2 **successfully encouraged development and protected Rhode Island ratepayers?**

3 Yes. If designed and implemented properly each year, setting a ceiling price based on a typical
4 project as an upper limit on tariff compensation encourages development while also fostering
5 healthy competition.

6

7 **Do you believe there are other changes included in the 2022 recommended renewable**
8 **energy classes and ceiling prices that will enhance this healthy competition, as proposed by**
9 **the DG Board?**

10 Yes. As discussed in my Direct Testimony, our team has undertaken structural changes to several
11 of the Solar ceiling prices that build upon this balanced approach by modeling ceiling prices
12 based on the upper capacity limit of each class and better segmenting the Solar renewable energy
13 classes. I am confident that these changes will further limit the cost of the REG program to
14 ratepayers, while also expanding its reach to new market segments, all while continuing to
15 encourage healthy competition amongst market participants.

16

17 **Do you believe Mr. Brennan and the DPUC's proposed changes to the Medium Solar I and**
18 **II prices are consistent with the REG program's ceiling price-based design, and would**
19 **result in healthy competition?**

20 No, I do not. I believe that adopting the DPUC and Mr. Brennan's recommendation to set the
21 Medium I and II ceiling price based solely on a narrow (and potentially unrepresentative) subset
22 of bid data would likely result in heightened risk of *unhealthy* competition amongst bidders
23 during the 2022 program year (and potentially thereafter).

1 **Please explain how you differentiate between healthy and unhealthy competition in the**
2 **context of the REG program.**

3 *Healthy* competition occurs when prices are set based on an estimate of typical project costs in
4 Northeast distributed renewable energy markets. In my experience, when bidders compete under
5 such conditions, the resulting competition is far more likely to be based on carefully considered
6 cost reductions relative to an estimate of typical project costs that are unlikely to create
7 substantial risks that the project will be canceled prior to reaching commercial operation. In
8 addition, so long as the ceiling price is still set somewhat above the absolute minimum price
9 necessary to develop a project, healthy competition should still produce an equilibrium or
10 clearing price in the Open Enrollments similar to one in which the price is forced to be lower (as
11 is being proposed by the DPUC and Mr. Brennan).

12 On the other hand, *unhealthy* competition occurs when prices are set artificially low relative to
13 typical prices and/or baseline development costs. This approach runs the risk of forcing certain
14 market outcomes rather than allowing the clearing price to be reached more naturally, as in
15 situations of healthy competition. Under such conditions, bidders are required to make decisions
16 that are not likely to be beneficial either for their own projects or for the broader market.

17
18 **Are there risks associated with using accepted bid values derived from conditions of**
19 **unhealthy competition when setting future year ceiling prices?**

20 Yes. The risk of setting prices for future program years based on the results of Open Enrollments
21 in which such a “forcing” design is pursued is likely to result in outcomes more skewed towards
22 prices that deviate from typical costs and prices in Northeast distributed renewable energy
23 markets, and risk either project failure or an unwillingness on the part of bidders to bid.

1 **Would you consider a general unwillingness on the part of potential Medium Solar (or any**
2 **other class of) bidders to bid, or an increased risk of project failure, to be an acceptable**
3 **outcome in line with the main purpose of the Renewable Energy Growth Act?**

4 No, I would not. The Renewable Energy Growth Act explicitly created a specific Medium Solar
5 renewable energy class, with a specific capacity allocation, which evinces a clear intention that it
6 intended a certain population of Medium Solar projects to succeed in the REG program each
7 year. As such, I believe that setting bid parameters that challenge that outcome would be
8 inappropriate.

9

10 **Has your team been making specific efforts in recent years to develop Medium Solar prices**
11 **that would result in a healthier degree of competition in that segment?**

12 Yes. As described in a Data Request response in Docket 5088⁶, our team has been
13 recommending Medium Solar ceiling price changes that are designed to ensure that the resulting
14 accepted bids are more likely to reach commercial operation, in part because of an observed
15 uptick in such projects failing to reach commercial operation.

16

17 **Based on your experience with Northeast distributed energy markets, if Medium Solar I**
18 **and II prices were revised as proposed by Mr. Brennan and the DPUC, what types of**
19 **unhealthy competition might Medium Solar bidders engage in?**

20 I believe that setting Medium Solar prices based on a narrow set of bids submitted late in the
21 program year will cause bidders to engage in either of the following two unhealthy competitive

⁶ See response 1-15 to Commission's First Set of Data Requests Directed to the Office of Energy Resources (issued December 3, 2020). Available at: [http://www.ripuc.ri.gov/eventsactions/docket/5088-OER-DR-PUC1%20\(12-28-2020\).pdf](http://www.ripuc.ri.gov/eventsactions/docket/5088-OER-DR-PUC1%20(12-28-2020).pdf)

1 strategies:

- 2 • Submitting speculative, “race-to-the-bottom” bids that are more likely to become patently
3 unprofitable if any of a variety of common development, interconnection or construction
4 complexities were to arise; or
- 5 • Entering bids at or immediately below the ceiling price (an outcome Mr. Brennan himself
6 has observed already tends to occur in the Medium Solar segment(s) in his 2021 and
7 2022 testimonies), given that many bidders faced with a ceiling price well below their
8 typical development and financing cost would have a strong incentive to bid no lower, so
9 as to not engage in a “race-to-the-bottom”.

10

11 **Is avoiding an outcome in which bids are submitted at or immediately below the ceiling**
12 **price part of the motivation for your team’s proposing a series of changes that would**
13 **increase the Medium Solar prices?**

14 Yes. I believe that the outcome identified by Mr. Brennan, which has occurred frequently in
15 recent Open Enrollments, suggests that these projects need special attention to ensure that they
16 are provided, within reason, a better opportunity to engage in a healthier degree of competition.

17

18 **When your team develops recommended ceiling prices, does your team consider upfront**
19 **capital cost inputs that originate from multiple sources?**

20 Yes, we do. Our team has historically settled on capital cost inputs that represent an averaged
21 mix of both Open Enrollment bid pricing, as well as a mix of revealed and reported pricing from
22 neighboring states.

23

1 **Have you and your firm utilized this approach in other engagements for public agencies in**
2 **the Northeast looking to set reasonable distributed solar and other renewable energy**
3 **compensation rates?**

4 Yes, we have utilized this approach whenever possible in helping design compensation values
5 and/or structures for the Massachusetts Solar Renewable Energy Credit (SREC) programs, the
6 Massachusetts Solar Massachusetts Renewable Target (SMART) program, and New Jersey's
7 Transitional Renewable Energy Credit (TREC) program, to name a few. I believe that this two-
8 pronged approach is critical for determining the typical price of solar PV in the Northeast (as
9 required by the Renewable Energy Growth Act), given that the average of bid and reported
10 pricing provides a much more realistic view of actual development cost.

11

12 **Has this approach resulted in documented programmatic and ratepayer benefits?**

13 Yes. **JK Rebuttal Schedule 3** is a graphic created by Narragansett Electric (which is contained
14 in the January 24, 2022 Narragansett Electric presentation to the DG Board shared as **JK**
15 **Rebuttal Schedule 4**) that shows the weighted average accepted bid price for projects greater
16 than or equal to 25 kW over the last 7 years of the REG program. The graphic shows that even as
17 the amount of capacity receiving tariff compensation has doubled, the weighted average price for
18 accepted bids has dropped by 27% since 2015, even as project attrition rates have remained
19 relatively low.

20

21 **Did the DPUC and Mr. Brennan incorporate any sources other than a narrow range of**
22 **accepted bids in the 3rd Open Enrollment when developing their proposed alternative**
23 **Medium Solar prices?**

1 No, not that we are aware. As noted above, their estimates were based on a narrow range of bid
2 outcomes obtained from an Open Enrollment that took place following the submittal of the
3 recommended ceiling prices to the DG Board and their approval.

4

5 **Do you believe that setting prices based on a narrow set of data would be consistent with**
6 **the intended ceiling price-based design of the program?**

7 No.

8

9 **Do you believe that granting the DPUC and Mr. Brennan’s request regarding the Medium**
10 **Solar prices would be consistent with SEA capital cost estimation methodologies previously**
11 **reviewed and approved by this Commission?**

12 No.

13

14 **In his Direct Testimony, does Mr. Brennan utilize a graphic to ostensibly compare Medium**
15 **Solar bids from the 2018 through 2021 Program Year to the DG Board’s 2022**
16 **recommended ceiling price?**

17 Yes, he does. It is labeled as Figure 1 in his testimony.

18

19 **In this graphic, does he make specific reference to selected bids from the 2021 Open**
20 **Enrollments, and in particular the 3rd Open Enrollment?**

21 Yes, he does. Mr. Brennan specifically compares the 3rd Open Enrollment results to the proposed
22 2022 Medium Solar I and II prices and argues that the bid values suggest that the 2022 ceiling
23 prices are inappropriately high relative to market outcomes.

1 **Can you explain why your analysis does not include results from this Open Enrollment?**

2 Yes, I can. Historically, our analysis has not included these figures, given that they are usually
3 only made public in December, which is typically at least 2-3 months after our final
4 recommended prices must be approved by the DG Board to be turned into a filing for the PUC.

5
6 **Do you believe this is an appropriate comparison?**

7 No. I do not believe there is sufficient justification to assume that the market participants
8 associated with the selected Medium Solar bids from the 3rd Open Enrollment have necessarily
9 been exposed to the cost increases, materials shortages and delays now affecting projects in
10 earlier stages of development. In fact, it is not uncommon for some (but not all) market
11 participants - including those that also participate in procurement-driven utility-scale markets - to
12 obtain, sell or utilize modules, inverters or other electrical equipment manufactured at least 1-2
13 years prior from their own stockpiles. This is due in part, to federal tax laws that incentivize the
14 purchase of equipment “safe harbored” during years in which credits were offered on more
15 favorable terms than now.

16 Therefore, I would respectfully encourage the Commission not to assume that a comparison of
17 Medium Solar from the 3rd Open Enrollment to 2022 proposed prices or bid values represents a
18 valid one-to-one comparison.

19

20 *Small Scale Hydroelectric Prices and Capital Costs*

21 **Do you believe the analysis underlying Mr. Brennan and the DPUC’s request to re-set the**

22 **Small Scale Hydroelectric is sufficiently sound or robust?**

23 No, I do not.

1 **In your view, does the DPUC and Mr. Brennan’s request to re-set the Small Scale**
2 **Hydroelectric price appropriately account for certain decisions made by your team?**

3 No. While the DPUC and Mr. Brennan request that the prices be set at the first Draft value, the
4 first Draft Small Scale Hydroelectric ceiling price (like all the other prices proposed in the first
5 Draft) intentionally did not include the forward-looking year-on-year input intended to account
6 for impacts of the inflation being observed in renewable energy supply chains around the world
7 due to the COVID-19 pandemic. We are not confident that this has been accounted for in Mr.
8 Brennan’s analysis.

9

10 **Why did your team choose not to include this factor for the first Draft analysis?**

11 In the first Draft Ceiling Price presentation, our team made clear that we planned to consider
12 more significant year-on-year adjustments but wanted to investigate such changes further (and
13 solicit more information from stakeholders) before making a proposal. Specifically, we stated on
14 page 10 of the first Draft ceiling price presentation that “SEA plans to investigate the matter of
15 current inflationary dynamics for all renewable energy projects further prior to settling on a final
16 approach, and furthermore may take steps ranging from” including utilizing no year-on-year
17 factor, incorporating an exogenous factor to account for inflation, or another hybrid approach.

18

19 **Has the DPUC and/or Mr. Brennan acknowledged the inflationary factors generally facing**
20 **renewable energy project development at present in other parts of his testimony?**

21 Yes, they have. On page 6 of his Direct Testimony, Mr. Brennan states that “the Division
22 recognizes that this issue (of inflationary pressure) is real and has likely resulted in increases in
23 actual costs.” In addition, the DPUC’s comments dated September 30, 2021 (see **JK Schedule**

1 **20** to my Direct Testimony) suggested that our team aim for the lower end of the proposed
2 potential increase in capital cost to account for ongoing inflationary pressure (as adjusted by a
3 new forecasted Producer Price Index (PPI) calculation from the U.S. Energy Information
4 Administration (EIA)).

5
6 **Did your team interpret the DPUC’s suggestion to adopt the low end of the range of**
7 **proposed year-on-year adjustment values included in the second Draft ceiling price**
8 **presentation as support for adopting a factor that accounts for the inflationary dynamics**
9 **discussed herein?**

10 Yes, we did.

11
12 **Would calculating the Small Scale Hydroelectric price as requested by the DPUC and Mr.**
13 **Brennan be consistent with their “recogni[tion] that this issue is real”?**

14 No, it would not. Approving the Small Scale Hydroelectric price as proposed by the DPUC and
15 Mr. Brennan would specifically *exclude* adjustments to account for the issue in question.

16
17 **Would calculating the Small Scale Hydroelectric price as requested by the DPUC and Mr.**
18 **Brennan disadvantage Small Scale Hydroelectric projects relative to other projects?**

19 Yes. Based on our discussions with small scale hydroelectric market participants, small scale
20 hydroelectric projects have been subject to as much as 30% cost increases (substantially higher
21 than the 5% to 15% range for other technologies) due to the disproportionate amount of steel the
22 technology requires. Though our team reduced this value to 21% for the final recommended
23 prices (an average of the PPI value at the time of the submission of the prices to the DG Board

1 and the estimate from the hydro market participants), it is clear to us that this sector has faced
2 more significant price increases than others, and thus would be disproportionately harmed by not
3 adopting an appropriate year-on-year capital cost factor.

4

5 *Non-Solar Operating Costs*

6 **Did the DPUC and Mr. Brennan also object to increases in assumed operating costs for**
7 **Small Scale Hydroelectric projects?**

8 Yes. In his Direct Testimony, Mr. Brennan objected our assumed 47% increase in the assumed
9 cost to insure all Small Scale Hydroelectric and AD projects.

10

11 **Why does your team recommend increasing this value?**

12 As I discussed in my Direct Testimony and related Schedules, it is our understanding from
13 discussions with both renewable energy and insurance market participants that the cost of
14 liability and property insurance has increased generally in recent years. This is due to the
15 industry being forced to pay out more claims than has been typical in prior years. Based on these
16 dynamics and a documented insurance quote from a Non-Solar market participant, we
17 recommend an increase in Non-Solar insurance prices by 47%.

18

19 **Did either the DPUC or Mr. Brennan provide any explanation or evidentiary basis for**
20 **opposing this value, other than their contribution to increased ceiling prices?**

21 No, not that I am aware.

22

23

1 **Did either the DPUC or Mr. Brennan object to the same 47% increase in insurance costs**
2 **being utilized for Wind projects?**

3 No, they did not.

4

5 **Reasonableness of Granting DPUC and Mr. Brennan's Requests**

6 **Do you believe that granting the DPUC and Mr. Brennan's requests to recalculate or re-set**
7 **the recommended prices is fully justified by data presented in this case or aligned with**
8 **REG objectives?**

9 No, I do not.

10

11 **Why do you believe this?**

12 One of the reasons for the success of the REG program is the collaborative, fact-based and
13 evidence-driven nature of ceiling price development process. Through this process, REG
14 stakeholders and market participants have worked with our firm for over a decade to provide the
15 valuable feedback and crucial (often confidential) market intelligence needed to set just and
16 reasonable ceiling prices that meet the REG program's goals and objectives.

17 As stated in my testimony, I do not find the DPUC's ceiling price recalculation requests to be
18 based on sound analysis.

19

20 **Do you believe the Commission should reject Mr. Brennan and the DPUC's requests?**

21 Yes. I would respectfully recommend that they be rejected in favor of the ceiling prices as
22 recommended and submitted in the Report and Recommendations, which were based on a robust
23 stakeholder process that occurred over the summer and fall.

1 **Does this conclude your rebuttal testimony?**

2 Yes, it does.

JK Rebuttal Schedule 1 – Ecogy Energy Comments

See file named: JK Rebuttal Schedule 1 – Ecogy Energy Comments.pdf

**JK Rebuttal Schedule 2 - Medium Solar I and II Breakdown of DPUC Support v
Oppose & Size of Change**

*See file named: JK Rebuttal Schedule 2 - Medium Solar I and II Breakdown of
DPUC Support v Oppose & Size of Change.xlsx*

**JK Rebuttal Schedule 3 – Narragansett Electric Table Containing REG Program
Weighted Average Accepted Bid Prices for Projects >25 kW (2015-2021)**

Rhode Island Renewable Energy Growth Program 2015 - 2021 Summary

| Program Year | Total Bids Awarded | Total kW (Nameplate) | Weighted Average PBI (cents/kwh) |
|---------------------|-------------------------------|---------------------------------|---|
| 2015 | 20 | 19,474 | 19.86 |
| 2016 | 30 | 22,908 | 17.06 |
| 2017 | 34 | 33,243 | 17.20 |
| 2018 | 36 | 33,427 | 16.20 |
| 2019 | 61 | 43,059 | 16.79 |
| 2020 | 52 | 38,219 | 16.17 |
| 2021 | 44 | 38,994 | 14.42 |
| Total | 277 | 229,323 | |

*** Includes the results from the 2021 Third Open Enrollment.**

**JK Rebuttal Schedule 4 – National Grid Presentation - Third 2021 Renewable Energy
Growth Program Open Enrollment Results Summary**

*See file named: JK Rebuttal Schedule 4 - National Grid Presentation - Third 2021
Renewable Energy Growth Program Open Enrollment Results Summary.pdf*